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EXAMINER

MORRISON, THOMAS A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/684,417	Applicant(s) NAM, DONG-SOO	
	Examiner THOMAS A. MORRISON	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 10-25 is/are rejected.
- 7) ☒ Claim(s) 7-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/19/2008 has been entered.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 are rejected under 35 U.S.C. 102(b) as anticipated by Japanese Publication No. 4-72246 (hereinafter "JP'246") or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP'246 in view of Japanese Publication No. 2001-75377 (hereinafter "JP'377").

Regarding claim 1, Figs. 1-4 of JP'246 show a paper-discharging apparatus used with an image-forming device, the paper-discharging apparatus provided with paper-discharging rollers (2a) and idle rollers (3a) disposed in a paper-discharging port side of the image forming device, in which a sheet of paper is discharged through the paper-discharging rollers (2a) and the idle rollers (3a), the paper-discharging apparatus comprising:

a supporting plate (11 in Fig. 1 or i in Fig. 4) coupled at opposite ends thereof (see Fig. 2) to a body (including 5 in Fig. 1 or including b in Fig. 4) of the image-forming device and installed at the paper-discharging port side of the image-forming device;

a supporting bracket (6 in Fig. 1 or d in Fig. 4) coupled at a middle portion thereof to the supporting plate (11 in Fig. 1 or i in Fig. 4) to rotatably support the idle rollers (3a) facing the paper-discharging rollers (2a); and

a spacing adjustment unit (including 8 in Fig. 1 or including f in Fig. 4) disposed between the idle rollers (3a) to constantly maintain a contact pressure between the paper-discharging rollers (2a) and the idle rollers (3a).

It is believed that Figs. 1 and 4 of JP'246 show a supporting plate (11 in Fig. 1 or i in Fig. 4) coupled at opposite ends thereof (see Fig. 2) to a body (including 5 in Fig. 1 or including b in Fig. 4) of the image-forming device. Alternatively, JP'377 discloses that it is well known to provide a paper discharging apparatus used in an image-forming device with a supporting plate (115) coupled at opposite ends thereof (see Fig. 1) to a body (including 120) of the image-forming device and installed at the paper-discharging port side of the image-forming device; a supporting bracket (112) coupled at a middle portion thereof to the supporting plate (115) to rotatably support an idle roller (111b) facing a paper-discharging roller (110); and a spacing adjustment unit (including 113) for the purpose of constantly maintaining a contact pressure between the paper-discharging roller (110) and the idle roller (111b). Because JP'246 and JP'377 both teach idle roller support arrangements for constantly maintaining contact pressure between paper-discharging and idle rollers, it would have been obvious to one skilled in

the art to substitute the idle roller support arrangement (including 115, 112 and 113) of JP'377 for the idle roller support arrangement (including 11, 6 and 8 in Fig. 1 or including l, d and f in Fig. 4) of JP'246 to achieve the predictable result of maintaining contact pressure between paper-discharging and idle rollers. Thus, all of the limitations of claim 1 are met.

Regarding claim 2, Figs. 1-4 of JP'246 show that the spacing adjustment unit (including 8 in Fig. 1 or including f in Fig. 4) comprises:

an elastic member (8 in Fig. 1 or f in Fig. 4) provided between the supporting plate (11 or i) and the supporting bracket (6 or d) so that opposite ends thereof abut with the supporting bracket (6 or d) and the supporting plate (11 or i), respectively. JP'377 also shows this same arrangement if the idle roller support arrangement of JP'377 happens to be substituted for the idle roller support arrangement of JP'246.

Regarding claim 3, Figs 1-4 of JP'246 show that the supporting plate (11 or i) and the supporting bracket (6 or d) are connected to be movable with respect to each other. JP'377 also shows this same arrangement if the idle roller support arrangement of JP'377 happens to be substituted for the idle roller support arrangement of JP'246.

Regarding claim 4, Figs. 1-4 of JP'246 show that the spacing adjustment unit (including 8 in Fig. 1 or including f in Fig. 4) further comprises:

a guide unit (including 9 in Fig. 1 or including g in Fig. 4) suppressing transverse and bending movements of the elastic member.

Regarding claim 5, Figs. 1-4 of JP'246 show that the guide unit (including 9 in Fig. 1 or including g in Fig. 4) comprises:

at least one clamping boss (9 or g) protruding from one of the supporting plate (11 or i) and the supporting bracket such that the clamping boss (9 or g) is located between the supporting plate (11 or i) and the supporting bracket (6 or d) when the supporting plate (11 or i) and the supporting bracket (6 or d) are assembled.

Regarding claim 6, Figs. 1-4 of JP'246 show that the elastic member (8 or f) comprises:

a coil spring installed to wrap around a circumferential surface of the clamping boss (9 or g).

3. Claims 10-14 and 19-25 are rejected under 35 U.S.C. 102(b) as being anticipated by JP'246.

Regarding claim 10, Figs. 1-4 show a paper-discharging apparatus to discharge a sheet of paper between a paper-discharging roller (2a) and an idle roller (3a) which are disposed in a paper-discharging port side of an image-forming device, comprising:

a supporting plate (5 in Fig. 1 or b in Fig. 4) formed on the paper-discharging port side of the image-forming apparatus having opposite ends thereof fixedly coupled to a body (including 1) of the image-forming apparatus (see e.g., Fig. 2);

a supporting bracket (6 in Fig. 1 or d in Fig. 4) having a middle portion formed between opposite ends thereof, on which the idle roller (3a) is rotatably mounted to contact the paper-discharging roller (2a); and

a spacing adjustment unit (including 11 and 8 in Fig. 1 or including i and f in Fig. 4) to flexibly couple the supporting plate (5 or b) and the middle portion of the supporting bracket (6 or d) to adjust a distance between the supporting plate (5 or d)

and the middle portion of the supporting bracket (6 or d) according to an external force exerted on one of the supporting plate (5 or b) and the supporting bracket (6 or d).

Thus, all of the limitations of claim 10 are met by JP'246.

Regarding claim 11, Figs. 1-4 show that the spacing adjustment unit (including 11 and 8 in Fig. 1 or including i and f in Fig. 4) controls the supporting bracket (6 or d) to maintain a contact pressure generated between the paper-discharging roller (2a) and the idle roller (3a) constant while adjusting the distance between the supporting plate (5 or b) and the middle portion of the supporting bracket (6 or d).

Regarding claim 12, Figs. 1-4 show that the middle portion of the supporting bracket (6 or d) is spaced-apart from the supporting plate (5 or b) by the distance in a direction perpendicular to the paper disposed between the paper-discharging roller (2a) and the idle roller (3a).

Regarding claim 13, Figs. 1-4 show that when the external force is exerted on one of the supporting plate and the supporting bracket, a portion of the supporting plate moves toward the middle portion of the supporting bracket while a distance between the middle portion of the supporting bracket and the paper-discharging roller is maintained constant. More specifically, in the recitation “wherein **when the external force is exerted on one of the supporting plate and the supporting bracket**, a portion of the supporting plate moves toward the middle portion of the supporting bracket while a distance between the middle portion of the supporting bracket and the paper-discharging roller is maintained constant”, the bolded portion of this recitation is a “conditional limitation” that need not ever occur. For example, if an external force is not

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exerted on the supporting plate or the supporting bracket, the conditional limitations are never satisfied. As such, the rest of the limitations in the recitation need not ever occur. Thus, this recitation does not distinguish claim 13 from the prior art apparatus of JP'246.

Regarding claim 14, Figs. 1-4 show that the spacing adjustment unit (including 11 and 8 in Fig. 1 or including i and f in Fig. 4) comprises:

an elastic member (8 or f) disposed between the supporting plate (5 or b) and the middle portion of the supporting bracket (6 or d) to elastically adjust the distance between the supporting plate (5 or b) and the middle portion of the supporting bracket (6 or d).

Regarding claim 19, Figs. 1-4 show a paper-discharging apparatus to discharge a sheet of paper between a plurality of paper-discharging rollers (2a) and a plurality of idle rollers (3a), which are rotated by corresponding ones of the paper-discharging rollers (2a) in an image-forming device, the paper-discharging apparatus comprising:

a supporting plate (5 in Fig. 1 or b in Fig. 4) formed on a paper-discharging port side of the image-forming device having opposite ends thereof mounted on a body (including 1) of the image forming device (see e.g., Fig. 2);

a supporting bracket (6 in Fig. 1 or d in Fig. 4) having a middle portion formed between opposite ends thereof, on which the idle rollers (3a) are rotatably mounted to contact corresponding ones of the paper-discharging rollers (2a); and

a spacing adjustment unit (including 11 and 8 in Fig. 1 or including i and f in Fig. 4) disposed between the middle portion of the supporting bracket (6 in Fig. 1 or d in Fig. 4) and the supporting plate (5 or b) to flexibly couple the supporting plate (5 or b) with

the middle portion of the supporting bracket (6 or d) to maintain a contact pressure generated between corresponding ones of the paper-discharging rollers (2a) and the idle rollers (3a) regardless of an external force exerted on one of the supporting plate (5 or b) and the supporting bracket (6 or d).

Regarding claim 20, Figs. 1-4 show that a distance between the supporting plate (5 or b) and the middle portion of the supporting bracket (6 or d) varies according to the spacing adjustment unit (including 11 and 8 or including l and f) while the contact pressure is maintained constant.

Regarding claim 21, Figs. 1-4 show that the middle portion of the supporting bracket (6 or d) is spaced-apart from the supporting plate (5 or b) by a distance which varies according to deformation of the supporting plate (5 or b).

Regarding claim 22, Figs. 1-4 show that a distance between the middle portion of the supporting bracket (6 or d) and the paper-discharging rollers (2a) is maintained constant.

Regarding claim 23, Figs. 1-4 show that the middle portion of the supporting bracket (6 or d) is not deformed in a direction perpendicular to an axis passing through a center of each of the paper-discharging rollers (2a) while the supporting plate (5 or b) is elastically deformed. Regarding the recitation “wherein the middle portion of the supporting bracket is not deformed in a direction perpendicular to an axis passing through a center of each of the paper-discharging rollers **while the supporting plate is elastically deformed**”, the bolded portion of this recitation is a “conditional limitation” that need not ever occur. For example, the supporting plate may never get elastically

deformed. As such, this recitation does not distinguish claim 23 from the prior art apparatus of JP'246.

Regarding claim 24, Figs. 1-4 show a paper-discharging apparatus to discharge paper from an image forming device having paper-discharging rollers (2a), comprising:

a supporting plate (5 in Fig. 1 or b in Fig. 4) positioned at a paper-discharging port side of the image forming device and fixedly mounted at opposite ends thereof to a body (including 1) of the image forming device; and

a supporting bracket (including 6 in Fig. 1 or including d in Fig. 4) including idle rollers (3a) facing the paper-discharging rollers (2a), the supporting bracket (including 6 or including d) flexibly mounted at a middle portion thereof to the supporting plate (5 or b) to maintain a constant contact pressure between the idle rollers (3a) and respective paper-discharging rollers (2a).

Regarding claim 25, Figs. 1-4 show that the supporting plate (5 or b) has a supporting plate axis disposed substantially parallel to at least one of a first center axis of the idle rollers (3a) of the supporting bracket (including 6 or including d) and a second center axis of the discharging rollers (2a), and the supporting plate axis of the supporting plate (5 or b) becomes disposed not to be parallel to the at least one of the first center axis and the second center axis according to a force exerted on one of the supporting plate (5 or b) and the supporting bracket (including 6 or including d) while the first center axis and the second center axis are maintained substantially parallel to each other.

4. Claims 1 and 10-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Publication No. 5-43082 (hereinafter "JP'082").

Regarding claim 1, Figs. 1-5 show a paper-discharging apparatus used with an image-forming device, the paper-discharging apparatus provided with paper-discharging rollers (26) and idle rollers (33) disposed in a paper-discharging port side of the image forming device, in which a sheet of paper is discharged through the paper-discharging rollers (26) and the idle rollers (33), the paper-discharging apparatus comprising:

a supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) coupled at opposite ends thereof (see Fig. 5) to a body of the image-forming device and installed at the paper-discharging port side of the image-forming device;

a supporting bracket (30) coupled at a middle portion thereof to the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) to rotatably support the idle rollers (33) facing the paper-discharging rollers (26); and

a spacing adjustment unit (including 32 and 34) disposed between the idle rollers (33) to constantly maintain a contact pressure between the paper-discharging rollers (26) and the idle rollers (33).

Regarding claim 10, Figs. 1-5 show a paper-discharging apparatus to discharge a sheet of paper between a paper-discharging roller (26) and an idle roller (33) which are disposed in a paper-discharging port side of an image-forming device, comprising:

a supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) formed on the paper-discharging port side of the image-forming apparatus having

opposite ends thereof fixedly coupled to a body of the image-forming apparatus (see e.g., Fig. 5);

a supporting bracket (30) having a middle portion formed between opposite ends thereof, on which the idle roller (33) is rotatably mounted to contact the paper-discharging roller (26); and

a spacing adjustment unit (including a and 31) to flexibly couple the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30) to adjust a distance between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30) according to an external force exerted on one of the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the supporting bracket (30). Thus, all of the limitations of claim 10 are met by JP'082.

Regarding claim 11, Figs. 1-5 show that the spacing adjustment unit (including a and 31) controls the supporting bracket (30) to maintain a contact pressure generated between the paper-discharging roller (26) and the idle roller (33) constant while adjusting the distance between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30).

Regarding claim 12, Figs. 1-5 show that the middle portion of the supporting bracket (30) is spaced-apart from the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) by the distance in a direction perpendicular to the paper disposed between the paper-discharging roller (26) and the idle roller (33).

Regarding claim 13, Figs. 1-5 show that when the external force is exerted on one of the supporting plate and the supporting bracket, a portion of the supporting plate moves toward the middle portion of the supporting bracket while a distance between the middle portion of the supporting bracket and the paper-discharging roller is maintained constant. More specifically, in the recitation “wherein **when the external force is exerted on one of the supporting plate and the supporting bracket**, a portion of the supporting plate moves toward the middle portion of the supporting bracket while a distance between the middle portion of the supporting bracket and the paper-discharging roller is maintained constant”, the bolded portion of this recitation is a “conditional limitation” that need not ever occur. For example, if an external force is not exerted on the supporting plate or the supporting bracket, the conditional limitations are never satisfied. As such, the rest of the limitations in the recitation need not ever occur. Thus, this recitation does not distinguish claim 13 from the prior art apparatus of JP’082.

Regarding claim 14, Figs. 1-5 show that the spacing adjustment unit (including a and 31) comprises:

an elastic member (31) disposed between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30) to elastically adjust the distance between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30).

Regarding claim 15, Figs. 1-5 show the spacing adjustment unit (including a and 31) comprises:

a plurality of elastic members (31 and 31) disposed between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30) to elastically adjust the distance between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30).

Regarding claim 16, Figs. 1-5 show that the elastic members (31 and 31) are disposed between the opposite ends of the supporting bracket (30) at a predetermined interval.

Regarding claim 17, Figs. 1-5 show that the elastic members (31 and 31) are compressed by different amounts to have different amounts of elastic potential. This can occur, for example, when non-uniform thickness sheets are fed. One of the elastic members (31) can be compressed by a different amount than that of the other elastic member (31).

Regarding claim 18, Figs. 1-5 show that the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) elastically moves toward the supporting bracket (30) according to an elasticity of the elastic member (31) while a distance between the paper-discharging roller (26) and the idle roller (33) is maintained constant.

Regarding claim 19, Figs. 1-5 show a paper-discharging apparatus to discharge a sheet of paper between a plurality of paper-discharging rollers (26) and a plurality of idle rollers (33), which are rotated by corresponding ones of the paper-discharging rollers (26) in an image-forming device, the paper-discharging apparatus comprising:

a supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) formed on a paper-discharging port side of the image-forming device having opposite ends thereof mounted on a body of the image forming device (see e.g., Fig. 5);

a supporting bracket (30) having a middle portion formed between opposite ends thereof, on which the idle rollers (33) are rotatably mounted to contact corresponding ones of the paper-discharging rollers (26); and

a spacing adjustment unit (including a and 31) disposed between the middle portion of the supporting bracket (30) and the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) to flexibly couple the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) with the middle portion of the supporting bracket (30) to maintain a contact pressure generated between corresponding ones of the paper-discharging rollers (26) and the idle rollers (33) regardless of an external force exerted on one of the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the supporting bracket (30).

Regarding claim 20, Figs. 1-5 show that a distance between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30) varies according to the spacing adjustment unit (including a and 31) while the contact pressure is maintained constant.

Regarding claim 21, Figs. 1-5 show that the middle portion of the supporting bracket (30) is spaced-apart from the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) by a distance which varies according to

deformation of the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5).

Regarding claim 22, Figs. 1-5 show that a distance between the middle portion of the supporting bracket (30) and the paper-discharging rollers (26) is maintained constant.

Regarding claim 23, Figs. 1-5 show that the middle portion of the supporting bracket (30) is not deformed in a direction perpendicular to an axis passing through a center of each of the paper-discharging rollers (26) while the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) is elastically deformed. Regarding the recitation “wherein the middle portion of the supporting bracket is not deformed in a direction perpendicular to an axis passing through a center of each of the paper-discharging rollers **while the supporting plate is elastically deformed**”, the bolded portion of this recitation is a “conditional limitation” that need not ever occur. For example, the supporting plate may never get elastically deformed. As such, this recitation does not distinguish claim 23 from the prior art apparatus of JP’082.

Regarding claim 24, Figs. 1-5 show a paper-discharging apparatus to discharge paper from an image forming device having paper-discharging rollers (26), comprising:

a supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) positioned at a paper-discharging port side of the image forming device and fixedly mounted at opposite ends thereof to a body of the image forming device; and

a supporting bracket (30) including idle rollers (33) facing the paper-discharging rollers (26), the supporting bracket (30) flexibly mounted at a middle portion thereof to

the supporting plate (30) to maintain a constant contact pressure between the idle rollers (33) and respective paper-discharging rollers (26).

Regarding claim 25, Figs. 1-5 show that the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) has a supporting plate axis disposed substantially parallel to at least one of a first center axis of the idle rollers (33) of the supporting bracket (30) and a second center axis of the discharging rollers (26), and the supporting plate axis of the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) becomes disposed not to be parallel to the at least one of the first center axis and the second center axis according to a force exerted on one of the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the supporting bracket (30) while the first center axis and the second center axis are maintained substantially parallel to each other.

Response to Arguments

5. Applicant's arguments filed 2/19/2008 have been fully considered but they are not persuasive.

Applicant argues

In particular, JP '246 is directed to a bearing installation plate 7 to automatically center a bearing 6 pressed against a roller axis 3b. See JP '246, Abstract. That is, JP '246 describes that the bearing installation plate 7 is movably abutted into a stay 5 by a moving projection 12. Id. In other words, JP '246 describes a freely movable bearing installation plate 7 mounted on the stay 5. This is not the same as "a supporting plate coupled at opposite ends thereof to a body of the image-forming device and installed at the paper-discharging port side of the image-forming device," as presently recited in independent claim 1. Accordingly, it is respectfully submitted that since JP '246 does not teach all of the elements presently set forth in claim 1, this claim is patentably distinguishable from JP '246, and withdrawal of this rejection and

allowance of this claim are respectfully solicited.

In response, claim 1 now recites "a supporting plate **coupled** at opposite ends thereof to a body of the image-forming device and installed at the paper-discharging port side of the image-forming device". The term "coupled" is a very broad term defined in the dictionary as "to fasten, link or associate together in a pair or pars". With this broad definition in mind, it is the examiner's position that Figs. 1-4 of JP'246 show a supporting plate (11 in Fig. 1 or i in Fig. 4) coupled at opposite ends thereof (see Fig. 2) to a body (including 5 in Fig. 1 or including b in Fig. 4) of the image-forming device and installed at the paper-discharging port side of the image-forming device, as claimed.

Alternatively, JP'377 discloses that it is well known to provide a paper discharging apparatus used in an image-forming device with a supporting plate (115) coupled at opposite ends thereof (see Fig. 1) to a body (including 120) of the image-forming device and installed at the paper-discharging port side of the image-forming device; a supporting bracket (112) coupled at a middle portion thereof to the supporting plate (115) to rotatably support an idle roller (111b) facing a paper-discharging roller (110); and a spacing adjustment unit (including 113) for the purpose of constantly maintaining a contact pressure between the paper-discharging roller (110) and the idle roller (111b). Because JP'246 and JP'377 both teach idle roller support arrangements for constantly maintaining contact pressure between paper-discharging and idle rollers, it would have been obvious to one skilled in the art to substitute the idle roller support arrangement of (including 115, 112 and 113) of JP'377 for the idle roller support arrangement (including 11, 6 and 8 in Fig. 1 or including i, d and f in Fig. 4) of JP'246 to

achieve the predictable result of maintaining contact pressure between paper-discharging and idle rollers. Thus, all of the limitations of claim 1 are met.

Regarding claims 2-6, the rejections of these dependent claims are outlined above.

Next, applicant argues

In particular, as described above, JP '246 is directed to a bearing installation plate 7 to automatically center a bearing 6 pressed against a roller axis 3b. See JP '246, Abstract. That is, JP '246 describes that the bearing installation plate 7 is movably abutted into a stay 5 by a moving projection 12. *Id.* In other words, JP '246 does not describe that the bearing installation plate 7 is coupled to a body of the apparatus, but instead describes a freely movable bearing installation plate 7 mounted on the stay 5. This is not the same as "a supporting plate formed on the paper-discharging port side of the image-forming apparatus having opposite ends thereof fixedly coupled to a body of the image-forming apparatus," as presently recited in independent claim 10. Accordingly, it is respectfully submitted that since JP '246 does not teach all of the elements presently set forth in claim 10, this claim is patentably distinguishable from JP '246, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

In response, the examiner does **not** rely upon element 7 of JP'246 to disclose the recited "supporting plate" in claim 10. Rather, the examiner relies upon Figs. 1 and 4 of JP'246 to show a supporting plate (**5 in Fig. 1 or b in Fig. 4**) formed on the paper-discharging port side of the image-forming apparatus having opposite ends thereof fixedly coupled to a body (including 1) of the image-forming apparatus (see e.g., Fig. 2). All of the limitations of claim 10 are met by JP'246.

Regarding claims 11-14, the rejections of these dependent claims are outlined above.

Next, applicant argues

In particular, as described above, JP '246 is directed to a bearing installation plate 7 to automatically center a bearing 6 pressed against a roller axis 3b. See JP '246, Abstract. That is, JP '246 describes that the bearing installation plate 7 is movably abutted into a stay 5 by a moving projection 12. *Id.* In other words, JP '246 does not describe that the bearing installation plate 7 is coupled to a body of the apparatus, but instead describes a freely movable bearing installation plate 7 mounted on the stay 5. This is not the same as "a supporting plate formed on a paper-discharging port side of the image-forming device having opposite ends thereof mounted on a body of the image forming device," as presently recited in independent claim 19.

Accordingly, it is respectfully submitted that since JP '246 does not teach all of the elements presently set forth in claim 19, this claim is patentably distinguishable from JP '246, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

f.

In response, the examiner does **not** rely upon element 7 of JP'246 to disclose the recited "supporting plate" in claim 19. Rather, the examiner relies upon Figs. 1 and 4 of JP'246 to show a supporting plate (**5 in Fig. 1 or b in Fig. 4**) formed on a paper-discharging port side of the image-forming device having opposite ends thereof mounted on a body (including 1) of the image forming device (see e.g., Fig. 2). All of the limitations of claim 19 are met by JP'246.

Regarding claims 20-23, the rejections of these dependent claims are outlined above.

Next, applicant argues

In particular, as described above, JP '246 is directed to a bearing installation plate 7 to automatically center a bearing 6 pressed against a roller axis 3b. See JP '246, Abstract. That is, JP '246 describes that the bearing installation plate 7 is movably abutted into a stay 5 by a moving projection 12. *Id.* In other words, JP '246 does not describe that the bearing installation plate 7 is coupled to a body of the apparatus, but instead describes a freely movable bearing installation plate 7 mounted on

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the stay 5. This is not the same as "a supporting plate positioned at a paper-discharging port side of the image forming device and fixedly mounted at opposite ends thereof to a body of the image forming device," as presently recited in independent claim 24.

Accordingly, it is respectfully submitted that since JP '246 does not teach all of the elements presently set forth in claim 24, this claim is patentably distinguishable from JP '246, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

In response, the examiner does **not** rely upon element 7 of JP'246 to disclose the recited "supporting plate" in claim 24. Rather, the examiner relies upon Figs. 1 and 4 of JP'246 to show a supporting plate (**5 in Fig. 1 or b in Fig. 4**) positioned at a paper-discharging port side of the image forming device and fixedly mounted at opposite ends thereof to a body (including 1) of the image forming device. All of the limitations of claim 24 are met by JP'246.

Regarding claim 25, the rejection of this dependent claim is outlined above.

Next, applicant argues

In particular, JP '082 is directed to an opening and closing door 25 which supports carrying rollers 33 and a spring support shaft 34. See JP '082, Abstract, FIGS. 3-5. However, as illustrated in FIGS. 3-4, JP '082 describes an element 30 to support the carrying rollers 33 which is attached to the opening door 25 by a screw A. That is, the screw A connects an outer portion of the element 30, outside of the area supporting the carrying rollers 33, to the opening door 25. See JP '082, FIGS. 3-5. JP '082 does not describe a middle portion of the element 30, nor describe connecting a middle portion of the element 30 to a supporting plate. Accordingly, JP '082 does not disclose or teach, among other things, "a supporting bracket coupled at a middle portion thereof to the supporting plate to rotatably support the idle rollers facing the paper-discharging rollers," as presently recited in independent claim 1. Accordingly, it is respectfully submitted that since JP '082 does not teach all of the elements presently set forth in claim 1, this claim is patentably distinguishable from JP '082, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

The recited "middle portion" in claim 1 does not distinguish claim 1 from the prior art apparatus of JP'082. Figs. 1-5 of JP'082 show a supporting bracket (30) coupled at a middle portion thereof to the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) to rotatably support the idle rollers (33) facing the paper-discharging rollers (26). The examiner considers the "middle portion" of supporting bracket (30) to include the entire portion of element 30 that is just inside of the end faces at opposite ends of element 30 including the locations where the two bolts join element 30 to the supporting plate. In other words, end portions of the supporting bracket (30) can be considered to be located outside of the two bolts shown in Figs. 3-5 of JP'082. All of the limitations of claim 1 are met by JP'082.

Next, applicant argues

However, the Applicant respectfully submits that JP '082 does not disclose or teach all of the elements of the Applicant's invention as recited in independent claim 10, for at least the following reasons.

As described above, JP '082 describes an element 30 to support the carrying rollers 33 which is attached to the opening door 25 by a screw A. See JP '082, Abstract, FIGS. 3-5. However, as illustrated in FIGS. 3-4, the screw A connects an outer portion of the element 30, outside of the area supporting the carrying rollers 33, to the opening door 25. See JP '082, FIGS. 3-5. JP '082 does not describe a middle portion of the element 30, nor describe connecting a middle portion of the element 30 to a supporting plate. Accordingly, JP '082 does not disclose or teach, among other things, "a supporting bracket having a middle portion formed between opposite ends thereof, on which the idle roller is rotatably mounted to contact the paper-discharging roller," and "a spacing adjustment unit to flexibly couple the supporting plate and the middle portion of the supporting bracket to adjust a distance between the supporting plate and the middle portion of the supporting bracket according to an external force exerted on one of the supporting plate and the supporting bracket," as presently recited in independent claim 10. Accordingly, it is respectfully submitted that since JP '082 does not teach all of the elements presently set forth in claim 10, this claim is patentably distinguishable from JP '082, and withdrawal of this rejection and

allowance of this claim are respectfully solicited.

The recited “middle portion” in claim 10 does not distinguish claim 10 from the prior art apparatus of JP’082. Figs. 1-5 of JP’082 show a supporting bracket (30) having a middle portion formed between opposite ends thereof, on which the idle roller (33) is rotatably mounted to contact the paper-discharging roller (26); and a spacing adjustment unit (including a and 31) to flexibly couple the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30) to adjust a distance between the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the middle portion of the supporting bracket (30) according to an external force exerted on one of the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) and the supporting bracket (30). The examiner considers the “middle portion” of supporting bracket (30) to include the entire portion of element 30 that is just inside of the end faces at opposite ends of element 30 including the locations where the two bolts join element 30 to the supporting plate. In other words, end portions of the supporting bracket (30) can be considered to be located outside of the two bolts shown in Figs. 3-5 of JP’082. All of the limitations of claim 10 are met by JP’082.

Regarding claims 11-18, the rejections of these dependent claims are outlined above.

Next, applicant argues

However, the Applicant respectfully submits that JP '082 does not disclose or teach all of the elements of the Applicant's invention as recited in independent claim 19, for at least the following reasons. As described above, JP '082 describes an element 30 to support the

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carrying rollers 33 which is attached to the opening door 25 by a screw A. See JP '082, Abstract, FIGS. 3-5. However, as illustrated in FIGS. 3-4, the screw A connects an outer portion of the element 30, outside of the area supporting the carrying rollers 33, to the opening door 25. See JP '082, FIGS. 3-5. JP '082 does not describe a middle portion of the element 30, nor describe connecting a middle portion of the element 30 to a supporting plate. Accordingly, JP '082 does not disclose or teach, among other things, "a supporting bracket having a middle portion formed between opposite ends thereof, on which the idle rollers are rotatably mounted to contact corresponding ones of the paper-discharging rollers," and "a spacing adjustment unit disposed between the middle portion of the supporting bracket and the supporting plate to flexibly couple the supporting plate with the middle portion of the supporting bracket to maintain a contact pressure generated between corresponding ones of the paper-discharging rollers and the idle rollers regardless of an external force exerted on one of the supporting plate and the supporting bracket," as recited in independent claim 19. Accordingly, it is respectfully submitted that since JP '082 does not teach all of the elements presently set forth in claim 19, this claim is patentably distinguishable from JP '082, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

The recited "middle portion" in claim 19 does not distinguish claim 19 from the prior art apparatus of JP'082. Figs. 1-5 of JP'082 show a supporting bracket (30) having a middle portion formed between opposite ends thereof, on which the idle rollers (33) are rotatably mounted to contact corresponding ones of the paper-discharging rollers (26); and a spacing adjustment unit (including a and 31) disposed between the middle portion of the supporting bracket (30) and the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) to flexibly couple the supporting plate (unnumbered plate to which element a is connected in Figs. 3-5) with the middle portion of the supporting bracket (30) to maintain a contact pressure generated between corresponding ones of the paper-discharging rollers (26) and the idle rollers (33) regardless of an external force exerted on one of the supporting plate (unnumbered

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plate to which element a is connected in Figs. 3-5) and the supporting bracket (30). The examiner considers the "middle portion" of supporting bracket (30) to include the entire portion of element 30 that is just inside of the end faces at opposite ends of element 30 including the locations where the two bolts join element 30 to the supporting plate. In other words, end portions of the supporting bracket (30) can be considered to be located outside of the two bolts shown in Figs. 3-5 of JP'082. All of the limitations of claim 19 are met by JP'082.

Regarding claims 20-23, the rejections of these dependent claims are outlined above.

Next, applicant argues

However, the Applicant respectfully submits that JP '082 does not disclose or teach all of the elements of the Applicant's invention as recited in independent claim 24, for at least the following reasons.

As described above, JP '082 describes an element 30 to support the carrying rollers 33 which is attached to the opening door 25 by a screw A. See JP '082, Abstract, FIGS. 3-5. However, as illustrated in FIGS. 3-4, the screw A connects an outer portion of the element 30, outside of the area supporting the carrying rollers 33, to the opening door 25. See JP '082, FIGS. 3-5. JP '082 does not describe a middle portion of the element 30, nor describe connecting a middle portion of the element 30 to a supporting plate. Accordingly, JP '082 does not disclose or teach, among other things, "a supporting bracket including idle rollers facing the paper-discharging rollers, the supporting bracket flexibly mounted at a middle portion thereof to the supporting plate to maintain a constant contact pressure between the idle rollers and respective paper-discharging rollers," as recited in independent claim 24.

Accordingly, it is respectfully submitted that since JP '082 does not teach all of the elements presently set forth in claim 24, this claim is patentably distinguishable from JP '082, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

The recited "middle portion" in claim 24 does not distinguish claim 24 from the prior art apparatus of JP'082. Figs. 1-5 of JP'082 show a supporting bracket (30) including idle rollers (33) facing the paper-discharging rollers (26), the supporting bracket (30) flexibly mounted at a middle portion thereof to the supporting plate (30) to maintain a constant contact pressure between the idle rollers (33) and respective paper-discharging rollers (26). The examiner considers the "middle portion" of supporting bracket (30) to include the entire portion of element 30 that is just inside of the end faces at opposite ends of element 30 including the locations where the two bolts join element 30 to the supporting plate. In other words, end portions of the supporting bracket (30) can be considered to be located outside of the two bolts shown in Figs. 3-5 of JP'082. All of the limitations of claim 24 are met by JP'082.

Regarding claim 25, the rejection of this dependent claim is outlined above.

Allowable Subject Matter

6. Claims 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick H. Mackey/
Supervisory Patent Examiner, Art
Unit 3653

5/10/2008